

Title (en)

Power amplifier apparatus comprising digital delta-sigma modulation and a pulse with modulator and method thereof

Title (de)

Leistungsverstärkervorrichtung mit digitaler Delta-Sigma-Modulation und ein Impuls mit Modulator sowie Verfahren dafür

Title (fr)

Appareil d'amplificateur d'alimentation comportant une modulation delta-sigma numérique et impulsion avec modulateur et son procédé

Publication

EP 2330734 A1 20110608 (EN)

Application

EP 09290880 A 20091125

Priority

EP 09290880 A 20091125

Abstract (en)

The invention concerns a power amplifier apparatus (100) comprising an input for receiving a digital signal, a power amplifier component for amplifying an analogue signal, an output for outputting the amplified analogue signal, and a signal processing circuit, wherein the signal processing circuit processes the digital signal being received at the input, and wherein the analogue signal is put out at the output, wherein the signal processing circuit comprises a digital sigma-delta modulation means (102), wherein the digital sigma-delta modulation means modulates the digital signal into a modulated digital signal, wherein the modulated digital signal is sampled from a base band to an output radio frequency band after the digital sigma-delta modulation, and wherein the sampled and modulated digital signal is transformed into the analogue signal by the pulse width modulator (108) and amplified by the power amplifier component.

IPC 8 full level

H03F 1/32 (2006.01); **H03F 3/19** (2006.01); **H03F 3/217** (2006.01)

CPC (source: EP)

H03F 1/3241 (2013.01); **H03F 3/19** (2013.01); **H03F 3/2175** (2013.01); **H03M 3/388** (2013.01); **H03M 3/506** (2013.01); **H03M 7/3026** (2013.01); **H03M 7/304** (2013.01)

Citation (search report)

- [X] EP 1501187 A1 20050126 - NORTHROP GRUMMAN CORP [US]
- [X] WO 2009031952 A1 20090312 - ERICSSON TELEFON AB L M [SE], et al
- [X] US 2006171484 A1 20060803 - PUMA GIUSEPPE L [DE]
- [X] EP 1662665 A1 20060531 - TECHNOCONCEPTS INC [US]
- [X] BERLAND C ET AL: "Digital signal processing techniques to compensate for RF imperfections in advanced transmitter architectures", WIRELESS TECHNOLOGY, 2008. EUWIT 2008. EUROPEAN CONFERENCE ON, IEEE, PISCATAWAY, NJ, USA, 27 October 2008 (2008-10-27), pages 41 - 44, XP031408469, ISBN: 978-2-87487-008-8
- [X] JOHAN SOMMAREK ET AL: "A 20 MHz BP-PWM and BP-DSM Class-D PA in 0.18 m CMOS", ELECTRONICS, CIRCUITS AND SYSTEMS, 2005. ICECS 2005. 12TH IEEE INTERNATIONAL CONFERENCE ON, IEEE, PISCATAWAY, NJ, USA, 11 December 2005 (2005-12-11), pages 1 - 4, XP031327403, ISBN: 978-9972-611-00-1

Cited by

EP2712077A1; US11336316B2; WO2015169328A1; EP2985910A1; EP2728745A1; EP2398148B1; EP2728746A1; US9035812B2; EP2398148A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

EP 2330734 A1 20110608

DOCDB simple family (application)

EP 09290880 A 20091125